GARDEN AND FOREST.

PUBLISHED WEEKLY BY

THE GARDEN AND FOREST PUBLISHING CO.

OFFICE: TRIBUNE BUILDING, NEW YORK.

Conducted by . . . . . Professor C. S. SARGENT.

ENTERED AS SECOND-CLASS MATTER AT THE POST OFFICE AT NEW YORK, N. Y.

NEW YORK, WEDNESDAY, FEBRUARY 5, 1890.

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Gardening Art in Public Parks.

AT the meeting of the Society of American Florists in Buffalo last August, Mr. William McMillan, Superintendent of Parks in that city, read a paper in which certain principles of the art of landscape-gardening were set forth with care and clearness. It was held that, when dealing with grounds of sufficient extent to have a distinctive landscape character, the motive of the work should be determined by the dominant natural characteristics of the site. The development of these characteristics in a fuller measure should be accomplished by "softening what is hard, clothing what is bare, filling out what is meagre and enriching what is beautiful, all in harmony with the original type." This rule excludes what is merely novel or eccentric as incongruous, and subordinates what is obviously artificial to what is natural. Carrying forward this idea, it was argued that beds of highly colored flowers and foliage plants, however beautiful in themselves, might be disturbing intrusions when conspicuously set in a picture whose leading motive is one of pastoral tranquillity. This was followed by some good-natured satire upon the taste which preferred garish colors and startling contrasts, sports and freaks and constitutional deformities in plants, rather than delicate tints and normal forms.

But "green pastures and still waters," which have been a refreshment to the souls of the weary since the days of the psalmist, are too tame for a taste educated up to an appreciation of the value of floral novelties, and certain correspondents of *The American Florist* have fallen foul of Mr. McMillan's views as too crude and rude for advanced gardening-art. What the people are hungering for, they say, is splendor of color, which it is possible to obtain in these modern days, thanks to the enterprise of seedsmen and florists. Why go backward in garden-art to old-fashioned shrubs and common flowers, when every catalogue advertises novelties and rarities? A long stretch of rolling meadow, whose soft turf flows through open glades between scattered groups of trees until it is lost at last in the shadows and mystery of a bordering wood—all this has neither interest nor beauty to the critic who bewails the absence of Coleus. To him it is "acres of dreary monotony," nothing but "vapid green."

So much of the controversy is given to introduce the latest correspondent on the subject, who writes, with unusual grasp and insight, in *The Florist* for January 15th: "Why not recognize two arts," he inquires, "each having distinctive aims and principles, to both of which the name of gardening is confusingly applied?" The one, termed landscape-gardening, deals with surfaces of some extent in which the "lay of the land," the sky-line, the blue distance, the broad and permanent features of what we term "scenery," are the fundamental elements. The other, or decorative gardening, concerns itself with the ornamentation of more contracted areas, and may properly be artificial, and subject to modification every year, or oftener. The separation between the two is not clear from a physical point of view, since they deal with the same materials and employ the same material appliances and handicraft processes. The essential difference between them will be recognized from the statement that they address different classes of sensibilities. A strictly ornamental arrangement of plants or flowers may show such perfection of form and color as to give keen delight and excite admiration. It is beauty for its own sake. It is the expression of no sentiment, however; it has no inner meaning. On the other hand, there is no lack of beauty in a natural landscape, nor in a consistent work of landscape-art, but it grows out of some more essential quality of the scene. It may be the clothing of sublimity, of grandeur, or of strength in repose. The one addresses itself to the æsthetic sense alone; the other makes appeal, through the imagination, to the nobler part of man's nature, and may move the profoundest feelings of the human soul.

While, therefore, the interest and value of both kinds of gardening are admitted, it is plainly a difficult problem to combine the two. This was the point originally insisted on by Mr. McMillan, who explained that the motives of the two might be conflicting, so that each would impair the value of the other. That is, not only would the introduction of formal flower-beds, for example, destroy the repose and unity of a glade or meadow, but the greensward and irregular shrub-border make a setting so inappropriate for an artificial design that its beauty of form and color would be largely neutralized. The effect of the whole would be self-contradictory. It would be a picture not only without unity of purpose, but a denial in one feature of what the remaining ones attempt to assert. Ordinary efforts, therefore, to unite the two will generally be faulty from an artistic point of view, not to speak of the practical difficulties of maintenance, some of which were set forth in the quotations from Mr. McMillan's address at Rochester, which we published last week.

It hardly needs to be said that the persons who appreciate landscape beauty, and who recognize the superiority of free natural treatment, or what is known as the park-like treatment of extensive public grounds, have as keen a relish for what is commendable in ornamental gardening as those who seem to consider it the only kind of gardening worthy of the name. Our belief is that the most refreshing antithesis to the hard lines of straight and stony streets shut in between high walls and to all the stress and pressure of city life is found in the freedom and openness of simple, broad, meadowy landscapes and spacious skies. And yet we have given illustrations of many formal gardens to show how effective they may be where skillfully planned and adapted to their surroundings. Fit fields for work of this sort are offered in most of our cities in connection with public buildings and elsewhere. Along Riverside Drive, in this city, where the foreground is limited by the parapet, there is ample opportunity within this line for ornate embellishment, statues, fountains and floral embroidery, and all this would not detract from the impressiveness of the prospect across the strong and silent river, with the forest-crowned cliffs and noble sky-line beyond. This means that while we would exclude ornamental gardening from places where it cannot be displayed to best advantage, and where it would clash with the design of other works, it is

altogether proper that adequate provision should be made for it in appropriate places at public cost.

In speaking of both these types of gardening-art, we have referred of course to genuine art and not to any spurious imitation or substitute for it. Only a master endowed with the creative faculty in ample measure could, with the material at hand—common grass, common shrubs and trees—work out a landscape so complete and satisfying as that in the Buffalo Park, the very strength of which is its simplicity. Almost as hard to find is an artist with the constructive talent and refined sense of color and form which will enable him to conceive and carry out a creditable design in strictly ornamental planting. When the writers who can see no beauty in a natural landscape, and insist upon higher color and more elaborate form in planting, will point out some satisfactory examples of this kind of work, or state with definiteness what it is they wish to substitute for the American flags and carpet-patterns and ribbon-lines now prevalent, they will command the gratitude of every one interested in garden-art.

There can be no doubt in the mind of any one who has given the most casual attention to forests and forest requirements that the productive capacity of any piece of woodland in this country can be increased by the application of a little common sense to its care, or that the wealth of the country can be increased enormously by the general introduction of wise systems of forest management. Men, or the great majority of them, who own woodland or forests will take care of them only when they can be made to realize that there is money in doing it, and not before. They must be made to understand that certain systems of culture must be applied to the care of land covered with trees as well as to land covered with other crops. Every authoritative word about our forests which is written or spoken with this object in view has its value. The strongest arguments are those based on facts like these in the following extract from a communication made by Mr. J. D. Lyman, of Exeter, New Hampshire, to the *American Cultivator:*

"The proper care and management of our Pine-forests must be in the line of experience and actual facts. Theory will not answer alone, nor are the writings of European foresters always safe guides in American practice. I will give you a few simple facts in illustration.

"I have in mind a clump of Pine-trees, which I remember from childhood, for it stands close by the burial-place of relatives of mine. An aunt of mine remembers these Pines in her childhood, and she was born in 1802. It is safe to say that they are 100 years of age. These Pines came up thick, and have never been thinned out, except as, in their struggle for existence, some have been so shut out from sunshine and crowded as to die. They are yet so small that I have never heard any one refer to these trees as being a clump of timber. They are tall and almost limbless, stunted, spindling trees, and I think very few of them one foot in diameter.

"In the winter of 1854–55 I bought a hundred-acre lot of land covered with a light deciduous growth, with small White Pines scattered among it. A very few years before the previous owners had cut out all the Pines large enough for small framing timber. It is well known that small trees are cut for this purpose. I paid $600 for the lot, and was laughed at for giving so much. I commenced to cut Pine-timber upon this lot in the winter of 1862–63, and in five years had taken $1,900 net from it. In 1870 I sold the remaining saw timber upon it for $600 on the stump. This illustrates how rapidly scattering Pines will grow.

"In January, 1870, I bought a lot and cut the Pine upon it closer than I ever cut them for timber on any other lot. I cut trees not much over six inches in diameter. A gentleman rallied me about putting cord-wood in as logs. About four acres of very thick little Pines were left after cutting close as I have stated, and more or less Pines, so small as to escape even such close cutting, were left scattered over perhaps twenty acres. In 1873 or 1874 I commenced to have these little Pines thinned out. This thinning has gone on from time to time till the present. Much wood, shingle stuff and small timber has been cut out, all of which has paid well for cutting, so that the thinning has cost me nothing. And now my larger Pines on this lot are much larger than the largest in the clump first referred to near the burial-place, though only about one-third as old. I think the Pines on this lot would to-day sell for from five to ten times as much as they would have sold for if they had not been thinned.

"These and many other instances convince me that it is very easy in many cases to increase the growth of timber some four-fold upon our lands, and have the thinnings which are cut out pay or more than pay all the expense of the necessary labor. On the second lot I have mentioned, the Pines were so scattered and the other growth so small that the Pines had got above the other trees and grew rapidly without aid. As a physician may kill with good medicine unwisely administered, so one may almost ruin his grove by injudicious thinning. I have seen such instances. Yet the proper thinning of thick young trees is of very great importance."

The Problem of Heather in North America.

FEW wild plants in the British Islands and on the continent of Europe are more attractive to American visitors than the very common Heath or "Heather" (*Calluna vulgaris*). The moors of the north are brightened by its color, and there seems to be no end to the prodigality with which Nature has scattered in barren places these clusters of delicate foliage and far more delicate blossoms. To the dwellers on the edges of the wastes carpeted by Heather the plant is hardly more than a hold-fast to bind down drifting sands, since sheep and cattle do not willingly use it as food. And it is not unlikely that much amusement has been caused by the expressions of delight which have fallen from the lips of Americans who have seen for the first time Heather in profusion. Although the present writer has many times seen Heather, and perhaps enough of it, in different parts of Europe, the sight of the plant when bound together as stable-brooms or used as bedding for cattle has never ceased to appear as a sort of an indignity against which he ought to remonstrate.

The reason for this feeling on the part of Americans is plain enough. In the first place, the plant is pretty, despite its commonness everywhere in the old world, and, in the second place, it does not grow, and cannot be made to grow, "wild" in our own country. Here and there, as we shall see presently, it has been found in small amount, but it has had only a precarious hold upon the soil, with no assurance that at any place as yet unvisited our botanists will find it well established.

This lack of Heather here seems all the more strange when we remember that the climate of the north temperate zone is substantially the same here as on the other side of the Atlantic. Making all allowance for the differences produced by the influence of the Gulf Stream, which gives to the west coast of Europe a warmer climate than we enjoy at the same latitude, it is hard to see why this plant, so common there, should be wanting here. We must ask, if at one time it covered the northern hemisphere, where has our share of it gone, and if it never was here at all, why does it not invade our territory, as so many of the other common plants of Europe have done, and which we call weeds? In the last century the great Linnæus wrote that two plants threatened by their spread to cover the whole earth—namely, Tobacco and common Heath. Tobacco has made pretty good progress, but so far as Heather is concerned his prophecy has not been in any marked degree fulfilled.

So far as the Heath family, as a whole, is concerned, we may say that in our country we have a fair share, but that of the true Heaths themselves we have practically none at all. At Nantucket two species have been found, but in such small amount and under such circumstances that no one thinks of regarding them as native plants.

The true Heather (*Calluna vulgaris*) was early reported as occurring in Newfoundland, but Mr. Charles J. Sprague, who investigated the evidence upon which one of the citations rested, was forced to decide against its authenticity. Other localities have, however, been found since, both in Newfoundland and in the Provinces of New Brunswick and Nova Scotia, but in all instances the space covered in each locality has been reported as rather small, and in a few of the cases there was strong suspicion that the plants had been introduced by man.

In July, 1861, Mr. Jackson Dawson exhibited at one of the weekly meetings of the Massachusetts Horticultural Society a plant of Scotch Heather, which he had labeled "Native Heath, found growing wild within twenty miles of Boston." A committee of the Society made a careful examination of the locality. From their report communicated to the *American Journal of Science*, January, 1862, p. 22, a few facts are herewith given. The plants grew over about half an acre of

even pasture-land, which was covered by a close, short grass, and interspersed with numerous plants of Sheep-laurel, Hardhack, Cassandra, Sweet Gale, Cranberry and a few Alders. There were twenty or more old plants and a multitude of seedlings springing from the peaty soil, mixed with sand, which was well adapted to the cultivation of any Heaths. The earth was kept moist by a brook running through the meadow, and here the plants flourished. A thorough investigation of all the circumstances connected with the growth of the plants showed that it was extremely improbable that they had come from seed sown by man, and the committee concluded that the plants were indigenous. Professor Gray visited the locality in September in company with a member of the committee, and he, likewise, came to the conclusion that the plants were native.

Subsequently a small locality was detected in the neighboring town of Andover and another in Cape Elizabeth, Maine.

Somewhat over a year ago the writer had the pleasure of visiting the Tewksbury locality in company with one of our most assiduous devotees of botany, Mr. Walter Deane, of Cambridge. At the dwelling-house nearest the locality we obtained explicit directions as to the exact spot, and we walked with confidence, expecting to see that the Heather had perhaps spread over a larger area in the twenty-seven years that had elapsed since Dr. Gray's visit. On the way to the brook we saw a vigorous clump of Heather, which had evidently been transplanted from the larger locality, and this removed any doubt we might have entertained as to finding the original place. Our utter discomfiture can therefore be realized when it is stated that we hunted high and low, up the brook and down the brook, and even far into a neighboring young forest, without detecting a trace of the plant. We were both rather accustomed to hunt for rare plants, and did not feel inclined to give up the search easily, but at last we were forced to return to the house for further instructions. Here we learned that we had been indeed in the right place, and, to prove this, the owner of the land went with us to point it out. On reaching the place with us he walked back and forth through the Alder-bushes, and at last declared that he could not account for its disappearance. To be sure, the place had been visited by many persons who had carried away reasonably large specimens for transplanting, but this would not explain the utter extermination. A few straggling, "drawn," prostrate and dying specimens were finally found, but they were only mere shadows. All that we could do was to make a pecuniary arrangement with the owner to clear away the overshadowing Alders and other young shrubs, and give the remnant a chance. But the chance appeared to be indeed a very small one, hardly worth even a day's labor. Such seems to be the history of about all the localities of Heather known to us in this country. For instance, a well-established locality discovered by the writer a few years ago on the line of the Maine Central Railroad, in Westbrook, Maine, and known to a few members of the Portland Society of Natural History, has been entirely lost by fires along the track. Some of the stations in the provinces have held on rather better, but the plants do not appear in any case to spread over more ground. Uncared for, the plants are speedily crowded out by more vigorous contestants for the space, and they give up the unequal struggle.

Late in the summer of 1888, I received some excellent specimens of Heather from a lady living in Townsend, Massachusetts, a town near the New Hampshire line. I have visited this locality twice, in company with other botanists, and on the last occasion accurate measurements of the area covered by the plant were made. Without giving details, it will suffice now to state that considerably more than an acre of ground was found well filled with healthy, strong plants, and that there was every indication of their being in full possession. The only rivals were the low bushes, common in what is everywhere known in New England as a Blueberry-pasture. The sandy soil had a few strong Cranberry-vines, but against these and the grass-like plants the Heather was evidently making its way. There were also a few plants of species of Viburnum and Cornus as well as of those seen in the Tewksbury station, but they did not appear threatening, nor did the one or two trees. The Heather was spreading into adjacent fields and even invading the woods near by. In short, the locality impressed all who examined it as one likely to be long preserved.

The question is again brought before us, by this new and strong station, as to the relations of this plant to our flora. The proximity of the station to that in Tewksbury and the lost one in Andover, suggested that the three might be the fading traces of a general occupation of a large area. It was with a measure of disappointment that the information was received which emptied this suggestion of all its value. Upon learning that there was a good degree of interest in the matter, the owner of the land said that he could tell us how the plant came there. About the time of the Franco-Prussian war, his sister-in-law visited the north of Ireland and brought back as a souvenir a few sprays of Heather from her old home. In the box holding these dry sprays were some seeds which it was suggested should be sown near the homestead in Townsend, but it was finally decided that the Cranberry-pasture would give the seeds a better opportunity for growth. Here the seeds were sown and the rapid growth had taken place in the period of sixteen years which had elapsed. In the pasture the browsing and grazing animals had kept down the competitors of the Heather, and with the happiest results. The moisture of the land was enough to provide for the plants the water which, in the Old World, they get from the humidity of the atmosphere over the moors (that is, the moisture in the air, condensing on the plants, must make partly good the lack of moisture in even the dry sand there), and so the Townsend Heather had kept its place.

There would seem then to be much encouragement in these facts for our dwellers in country homes. Given a barren pasture with a fair amount of moisture in the soil, and given, also, some means of keeping down the shrubs which would crowd the Heather out, the plants will have a fair chance of surviving. It seems possible that many of our country and even our seaside pastures may be made attractive in this way, at least the experiment is so promising that it should be fairly tried.

While, therefore, I believe that with a little help in keeping its competitors under, Heather may be made to thrive under conditions easily attainable here, I can no longer believe that the scattered stations of Heather now existing in the provinces, and, more rarely, in New England, date farther back than the accidental or intentional scattering of Heather-seeds by the hand of man.

We have, in such a study of Heather in a New England pasture, a capital illustration of the paucity of simple facts at one's command. What we do know, is the following: A common plant, wild in a soil and in a climate much like our own, refuses, under the ordinary conditions of the struggle for existence, to make even a pretense of holding its ground when it comes here. What no one knows, is the following: Whether the conditions here, of heat and cold, dryness and moisture, insect visitants, competing shrubs and herbs, grazing animals, and the like, are so nearly favorable that with a trifling change, one way or the other, they might serve the plant well and give it here an open welcome. Careful observation of a few plants of Heather, left to themselves in different localities in New England or the middle states, might settle some of these points which otherwise must be left, as now, to mere conjecture. *George Lincoln Goodale.*

Cambridge, Mass.

New or Little Known Plants.

Picea Breweriana.

WE are indebted to Mr. J. G. Lemmon, the botanist of the California Board of Forestry, for the photographs from which the illustrations of this California Spruce on pages 66 and 67 have been prepared. *Picea Breweriana** is the most local of all the Spruces and perhaps from its peculiar habit of growth one of the most remarkable of them all. It was not noticed until 1884, when Mr. Thomas J. Howell, of Arthur, Oregon, found it on the north slope of the Siskiyou Mountains near the head waters of the Illinois River, in the extreme northern part of California. It was seen later by Mr. T. S. Brandegee (who obtained a trunk of this tree for the Jesup collection in the American Museum of Natural History in this city), a little to the south of Howell's locality on one of the small north forks of the Klamath. These are the only stations known for this remarkable tree, and there are hardly a hundred fully grown individuals in them both, although it will be found, doubtless, on some of the adjacent ridges or mountain-ranges; for all that part of California lying west of Mount Shasta, one of the most broken and rugged parts of the state, is still very imperfectly known and its botany is practically unexplored. Mr. Brandegee found the few trees which he saw, widely scattered over an area of several hundred acres, growing with the Douglas Fir, the Sugar

* Watson in *Proc. Am. Acad.*, n. ser. XII, 378. Sargent in *Gardeners' Chronicle*, n. ser. XXV, 493, f. 93.

Pine, the White Fir (*Abies concolor*) and a few small specimens of Lawson's Cypress which, previous to that time, was not known except in the single locality discovered by Jeffrey on the head waters of the Sacramento below Mount Shasta and on the Oregon coast.

Picea Breweriana differs from the other American Spruces by its blunt, round leaves and by its larger cones, whose thin, entire scales resemble somewhat those of the White Spruce; they are much larger, however, and sometimes almost as large as those of the Norway Spruce, which this tree resembles, too, in the form of the leaves and in its long pendulous branchlets. These long branches, one of which, very much reduced of course, appears in figure 16, are the marked and striking feature of this tree. They are six or eight feet long sometimes, thin and flexible as a whip lash, and "give to the trees," to use Mr. Brandegee's expression, "the appearance of Weeping Willows." The cones, instead of appearing near the top of the trees as they do in the other American Spruces, are produced from the lower branches also, as in the Norway Spruce, and hang down from the ends of the long pendulous branchlets. The largest tree measured by Mr. Brandegee was ninety feet high, with a trunk diameter of thirty inches.

Neither Howell, nor Brandegee, nor Lemmon, the only botanists who have ever seen, apparently, *Picea Breweriana*, visited the trees at seasons of the year when seeds were ripe, and this species has not been introduced yet into cultivation. *Picea Breweriana*, if it is fair to judge from the habit in cultivation of several other California trees which grow naturally only in small numbers and in very narrow areas—*Cupressus macrocarpa*, *Pinus insignis*, *Pinus Torreyana*, *Chamæcyparis Lawsoniana*—may be expected to adapt itself to conditions very dissimilar to those in which it is found on the Siskiyou Mountains and to thrive outside the limits of its present restricted range. If this expectation is confirmed and *Picea Breweriana* assumes in cultivation anything like its normal habit of growth, it will certainly prove one of the most striking and attractive American conifers and a garden ornament of first-rate value.

The specific name adopted by Mr. Watson for this tree commemorates the services, in California, of Professor William H. Brewer, of Yale College, who, more than any man in his generation, has brought to light by explorations in the forest the characters and distribution of the Pacific coast conifers. *C. S. S.*

Foreign Correspondence.

London Letter.

TWO new Irises are now flowering for the first time at Kew; they are *I. Bakeriana*, a near ally if not a variety of *I. reticulata*, which it resembles in habit, size and form of flower, but differs most markedly in color from the known forms of that species, and is superior to them all. It is pale blue, with white falls spotted and blotched with rich black velvety purple. At Kew it thrives under the same treatment as *I. reticulata*. The second one is *I. Bornmulleri*, an Armenian species introduced last year by Max Leichtlin. Its habit is that of *I. Persica*; the flowers are medium in size, and colored a deep canary yellow, with a few brown spots on the outer segments and slightly bearded. The inner segments are unusually narrow and small for an Iris. Close to these two Irises is the bed of spring flowering Crocuses, many of which are in full bloom already. Lately the weather here has been quite spring-like. On Sunday, the eighteenth, for instance, the thermometer stood about sixty all day, and the sun shone as brightly as in May. The mildness of the weather so early in the year is almost certain to have disastrous consequences. *Lonicera Standishii* and *Hamamelis arborea* are in full bloom, the former a white flowered, very fragrant and free blooming plant of semi-scandent habit; the latter a beautiful shrub, with its twiggy branches thickly clothed with bright golden flowers.

NEPENTHES.—A collection of pitchers of these plants, just shown by Messrs. Veitch, was, perhaps, the most interesting exhibit of the first meeting of the Royal Horticultural Society. The pick of this fine collection are *N. Curtisii*, *N. hirsuta*, *N. Northiana*, *N. Rafflesiana* and *N. sanguinea*. Many hybrids were shown, the best of them being *N. Mastersiana*, *N. Dicksoniana*, *N. Morganæ* and *N. Chelsoni*. As a rule, the hybrids are very much easier to cultivate than the species. Probably the very best garden plant in all the lot is *N. Mastersiana*, raised by Messrs. Veitch from *N. sanguinea* and *N. distillatorea*, and grown by them into really marvelous specimens.

Hippeastrum aulicum, var. Prince Albert, is an old Chatsworth favorite, and certainly the best of the several forms known of this fine plant. Flowering at this time of the year, this species is of special value, and it is one of the easiest to manage of all Hippeastrums. The flowers are large and colored deep crimson, strong bulbs producing scapes two feet high, bearing three or four flowers. *Dendrobium Macfarlanei*, shown by Messrs. Veitch, is a new introduction from Torres Straits, with the pseudo-bulbs and foliage of its geographical neighbor, *D. superbiens*, whilst the flowers, almost as large as those of *D. formosum*, are snow white. The petals and sepals are rhomboid, two inches long, the lip being almost as long, with two acute folding lateral lobes, bearing a few streaks of purple.

DENDROBIUM HYBRIDS.—These are becoming abundant in English gardens, and, unfortunately, some of them differ from each other only in name, while not a few are inferior to the commonest species. A hybrid should be a distinct gain, or it should be destroyed. Of course there are hybrid Dendrobiums which are both distinct and beautiful; such, for instance, are *D. Ainsworthii*, and *D. splendidissimum*, var. *grandiflorum*, the latter, however, very unfortunate in having a ridiculous name. Sir Trevor Lawrence exhibited at the meeting of the Royal Horticultural Society, held on Tuesday last, the following hybrid Dendrobiums: *D. Luna* (*Ainsworthii* × *Findlayanum*), like the last-named parent in habit and in the size of the flowers, but having creamy-white segments with purple tips, a large lip with a few purple lines in the throat, and a tinge of yellow in front. It scarcely differs from *D. chrysodiscus*, a hybrid raised from the same parents, and it is slightly better than *D. xanthocentrum*, which was obtained from *D. Findlayanum* × *D. Wardianum*. This has large flowers like those of the last-named parent, but the lip is large, flat and yellow in the middle, as in *D. Findlayanum*. *D. Juno* (*Wardianum* × *moniliforme*) is simply a good *D. nobile*, with the addition of a tinge of yellow on the labellum. *D. chlorostele*, from the same parents, scarcely differs from *D. Juno*. The finest of the lot was *D. splendidissimum grandiflorum* (*aureum* × *nobile*), which flowered for the first time some ten years ago. The flowers are over four inches across, of good substance, and like a gigantic *D. Wardianum*, except in the lip, which is shaped like that of *D. aureum*, but larger, and colored rich velvety purple, margined with white. This hybrid is remarkable on account of its exceeding both parents in size. *D. enosmum* (*endocharis* *nobile*), and its variety, *leucopterum*, have elegant large fragrant flowers, the variety especially being a charming Orchid, pure white, with a rich maroon-colored lip.

D. nobile, grandest of the race, beautiful even in its worst form, a perfectly tractable garden plant, and possessed of endless variety in form and shade, was represented by some rare forms from the collection of Sir Trevor Lawrence. These were *D. Cooksoni*, the three-lipped Dendrobium, its three inner segments, or petals, being alike in size and color, the lowest one being less spreading than the others; it is an interesting and beautiful Orchid. The Burford Lodge variety is even more interesting morphologically, as the characters which normally belong only to the lip occur also on the lower half of the two lateral sepals. *D. Tolliana* is a curious monster, the flowers being inverted so that the lip is uppermost; the petals are broad and less spreading than is usual in the species. If we add to these the grand varieties known as *nobilius*, *Sanderianum*, *pendulum*, *Wallichianum*, etc., every one as easy to manage as the commonest form of *D. nobile*, the value of this species in gardens is plainly seen. Dendrobiums are not general favorites; a few, such as the above, *D. fimbriatum*, *D. formosum*, *D. thyrsiflorum* and *D. Dalhousianum*, are popular, but there are dozens of first-rate garden plants in the genus besides these, and many of them are just as easy to manage. The species in bloom now at Kew are *D. Wardianum*, *D. nobile*, *D. speciosum*, *D. moniliforme*, *D. Ainsworthii* × and *D. formosum*.

MEXICAN LÆLIAS.—The gayest Orchids in flower now are such Lælias as *L. anceps* in many varieties, *L. albida*, *L. furfuracea*, *L. Gouldiana* and *L. Crawshayana*. Better acquaintance with these plants makes it clear that, as in the many forms of *Cattleya labiata*, which once ranked as species, as in the case of these Mexican Lælias, there are more species recognized than can be easily maintained. The link connecting *L. albida* with *L. anceps* is the rare *L. Crawshayana*, called

a natural hybrid, but probably merely the link needed to unite these two extremes under one heteromorphous species. The same remark applies to the newer *L. Gouldiana*, which connects *L. autumnalis* with *L. furfuracea*. Of course nature is not concerned in making species and keeping them distinct; one might easily proceed from this to argue that every genus is merely one variable species of more or less range. We must believe that all the species in a genus have sprung from one, pretty much as all Cabbages are from *Brassica oleracea* and all Chrysanthemums from *C. morifolium* (*Sinense*). At any rate, the term natural hybrid for a plant with a fixed and distinct character seems to me lame. Talk about names merely is, however, an unprofitable game, for a gardener at any rate. If I could have my way plant names should be fewer in number and very much simpler than many of them are now. The man who saddles plants with names like *Damnacanthus*, *Catoblastus*, or *Swammerdamia*, is guilty of something akin to felony.

MIDWINTER CHRYSANTHEMUMS.—These are useful, and efforts are being made by the National Chrysanthemum Society to encourage their production and culture. A paper read this week at a conference of this Society recommended the following as possessing the qualities most essential, namely, lateness in blooming, which must, of course, be inherent and not the result of special treatment; secondly, freeness of habit and convenience of size; and thirdly, good, well-colored, freely produced flowers—Etoile du Midi, Kæmpfer, M. C. Hubert, Meg Merriles, Ralph Brocklebank, Countess of Lytton, Ceres, Mrs. C. Carey, Ethel, Thunberg, Boule d'Or, Moonlight, Glorisosum, Mrs. H. Cannell, Golden Gem, Boule de Neige, Snowdrop and Mdlle. Santir. These, according to the author of the paper, do not begin to bloom before the beginning of December, and they remain in beauty at least until the middle of January. He also recommends the following single flowered kinds as possessing the same qualities, namely, Magenta King, Canariense, Brunette, Ellen Terry, Mrs. Killock, Monte Carlo and Gus Harris. Other late flowering kinds deserving of special mention are Kioto, Lord Eversley, Moonlight and Maggie Mitchel. The treatment recommended for these late flowering kinds by an excellent grower here is as follows: Strike the cuttings in March or April, shade in hot sunny weather, and half plunge the pots in ashes. Do not house the plants until forced to do so by frost, and when under glass keep them as cool as possible. If the flowers are not pushing fast enough a little heat may be given in December.

London. *W. Watson.*

Paris Letter.

IN spite of the cloudy and disagreeable weather which has prevailed this winter in central and southern Europe, Tea Roses, Narcissus and Australian Acacias from Provence are sold in our streets, with Violets, also from the south, of which an incalculable number of little bouquets are sold at prices varying from two to five cents each. Forced Lilacs, Lilies-of-the-Valley and Snowballs are the most common flowers in the florists' shops. The forced Lilacs have for many years been objects of considerable commercial importance in the French capital, and now the cultivation of Lilies-of-the-Valley becomes every year more and more extensive. The beauty of the flowers, their durability and the delicacy of their perfume make the Lily-of-the-Valley one of the favorite flowers here. The roots for forcing come from Belgium. Attempts to force those taken from the woods have never been very successful, and it is found necessary, in order to obtain good flowers, to subject the roots to preparatory cultivation in nurseries. It is estimated that about 1,500,000 roots of Lily-of-the-Valley are now forced every season in the neighborhood of Paris, and that the average annual sales of the flowers amount to half a million of francs.

Cyclamens, different species of Erica, the Clivias, and Chinese Primroses, Cinerarias, Hyacinths, Tulips and Epiphyllums appear also in the windows of the florists.

At the last meeting of the National Society of Horticulture, M. J. Sallier, of Sceaux, exhibited a fine specimen of *Luculia gratissima*. This superb shrub belongs to the *Rubiaceæ*. It is a native of Nepaul, and therefore should be cultivated in the cold house. The rose-carmine flowers are extremely and delicately fragrant, and are united in great terminal corymbs. Like so many other plants, *Luculia gratissima* was fashionable at one time, and then its cultivation was abandoned without any apparent reason. The world has its caprices, but it does no harm to call attention from time to time to neglected plants often difficult to obtain, although, fortunately, they still exist in the great botanical gardens. M. Sallier exhibited also *Cypripedium chloroneurum*, a hybrid, whose parentage is unknown. It has the foliage of *C. venustum*, and great brilliant flowers, looking as if they had been covered with a coat of varnish, and *C. Œnanthum*, a hybrid between *C. Harrisianum*, crossed by *C. insigne Maulei*. The foliage of this plant is dark green. The peduncle is covered with black hairs, and bears a solitary flower, whose superior sepal is greenish white, with numerous violet veins, the petals and lip being vinous violet. M. Chantrier, of Bayonne, exhibited seedling Chrysanthemums; M. Driger, a *Cælogyne*, introduced directly from Burmah; Vilmorin & Co., an interesting variety of Calceolaria, obtained by crossing *C. rugosa* with a herbaceous species. This hybrid has the advantage of being a perpetual bloomer. M. Baltet exhibited before the Committee of Ornamental Arboriculture several shrubs in fruit. The most conspicuous were *Cotoneaster tomentosa*, *C. Nepalensis*, *C. horizontalis*, *Cratægus Carrieri* and *C. Crus-galli*, *Lycium Sinense*, *Rhodotypos kerrioides*, *Ligustrum Ibota*, *L. vulgare* and *Diospyros Lotus*.

Two interesting plants have recently found their way into commerce here. One is the *Genista Andreana*, of which Croux & Sons, of Val d'Aulnay, near Sceaux, have purchased the stock. This plant was found growing wild in Normandy with *Genista Scoparia*, of which it is only a variety with red-flowered wing-petals, which make a good contrast with the bright yellow of the other parts of the flower. This plant was described and figured in August, 1886, in the *Revue Horticole*, and was exhibited in Paris last summer. The *Genista Andreana* is a sand-loving plant, but it can be cultivated on clay soils if it is grafted on the common Laburnum. The second new shrub is *Euscaphis staphyloides*, introduced into commerce by M. Lemoine, of Nancy. It is closely related to the Staphylea, which it much resembles in its general habit. It is a native of Japan, where it is known as *Gonzui*, *Kitsume no tsija Cukun* and as *Dai i noki*. It is often cultivated in Japanese gardens, where it grows to a height of ten or twelve feet. The small greenish white flowers are produced in terminal panicles and are followed by a fruit which becomes scarlet at maturity and remains upon the plants until the beginning of winter like the fruits of Euonymus. According to Siebold, the inner bark of the roots of Euscaphis is bitter and astringent, and is used by the Japanese as a remedy against dysentery.

Paris. *D. Bois.*

Cultural Department.

Lælia anceps.

THIS is undoubtedly one of the very showiest Orchids in cultivation. It is exceedingly popular, very plentiful and cheap, and therefore to be met with in every collection, even where Orchids are not a specialty, but where a place is retained for a few of the best cultivated varieties. The popularity of this species is not to be wondered at, when it is considered how valuable its large, handsome flowers are in enlivening the somewhat dreary aspect which naturally presents itself in our plant-houses during the sombre months of November, December and January—the season when *Lælia anceps* and its many beautiful varieties are always to be found in bloom.

The typical *L. anceps* is distinguished by having ovoid-fusiform, more or less angled pseudo-bulbs, which are from three to six inches long, and closely arranged on the rhizome. A single oblong-lanceolate, very leathery leaf, six to eight inches long, is borne on the summit of each pseudo-bulb, whence also emerges the peduncle. This latter is one and a half to three feet long, having at each node a more or less silvery-looking, keeled and sheathing bract, the tip of which just passes the base of the bract above and opposite to it. From two to five flowers are borne on each peduncle, and these, if spread out, would measure between five and six inches across. The sepals and petals are deep rose, the former being lanceolate-acute, the latter much broader and elliptic-lanceolate. A peculiar feature of the sepals—also to be observed in *Lælia pumila*—is that the upper one slants back without being recurved, and the two lower ones slant forward on each side of the lip. The side lobes of the latter organ are folded over the column, forming a tube. They are pale rose outside, creamy white inside, with interrupted lines of dark purple, which vanish in the magenta-purple of the recurved anterior portions. The middle lobe is reflexed at the tip, and of a deep magenta-purple, which presents a vivid contrast to the elevated disc, which is of the brightest yellow and bordered in front with white. The column is white behind, tinged with green and streaked with purple, and green in front, spotted in the centre and lined with purple on each side.

There are many very fine varieties of this species. One of the least known and, at the same time, one of the most distinct, is that known, as Amabilis, which first flowered at the beginning of last year with Messrs. Sander & Co., St. Albans. The sepals and petals are of the clearest white, occasionally flushed with rose. The lip is tinged with yellow, and has a mauve-purple blotch on the white mid-lobe, while the side-lobes are very conspicuously streaked with crimson. *L. anceps Barkeriana* is a very old but rare form, having been introduced by Messrs. Low & Co. in 1837. The flowers are of a deep rose-purple color, with narrow petals and lip. The variety Dawsoni is almost universally acknowledged to be the finest form of this species. The sepals and petals are of the purest white, the latter being remarkably broad, and the front lobe of the lip has a blotch of magenta-purple in front of the yellow disc. *L. anceps Sanderiana* is something like this, and is, by some, preferred to it. It flowers very freely. The sepals and petals are pure white and much larger than in the ordinary *L. anceps*. The side-lobes of the lip are stained with yellow and streaked with dark purple, and the front-lobe has a magenta-purple blotch shading off into white at the edges. *L. anceps Ballantineana* appeared for the first time this year in Messrs. Sander's nursery. It is very beautiful, being remarkable for its large flowers; the sepals and petals (the latter being very broad) are tipped with rose, and the front lobe of the lip is of a much darker magenta-purple than any form yet known. Veitchiana is a lovely variety with white sepals and petals, and a large mauve-purple blotch on the lip. The form Percivaliana has white sepals and petals flushed with lilac. The side-lobes of the lip are deep rose-purple in front with darker purple streaks on each side of the yellow crest. In front of this is a white area and then the deep magenta-purple front lobe. There are many other forms, such as alba, vestalis, Hilliana, etc., but it is almost impossible to depict their beauty and distinctness from each other in writing.

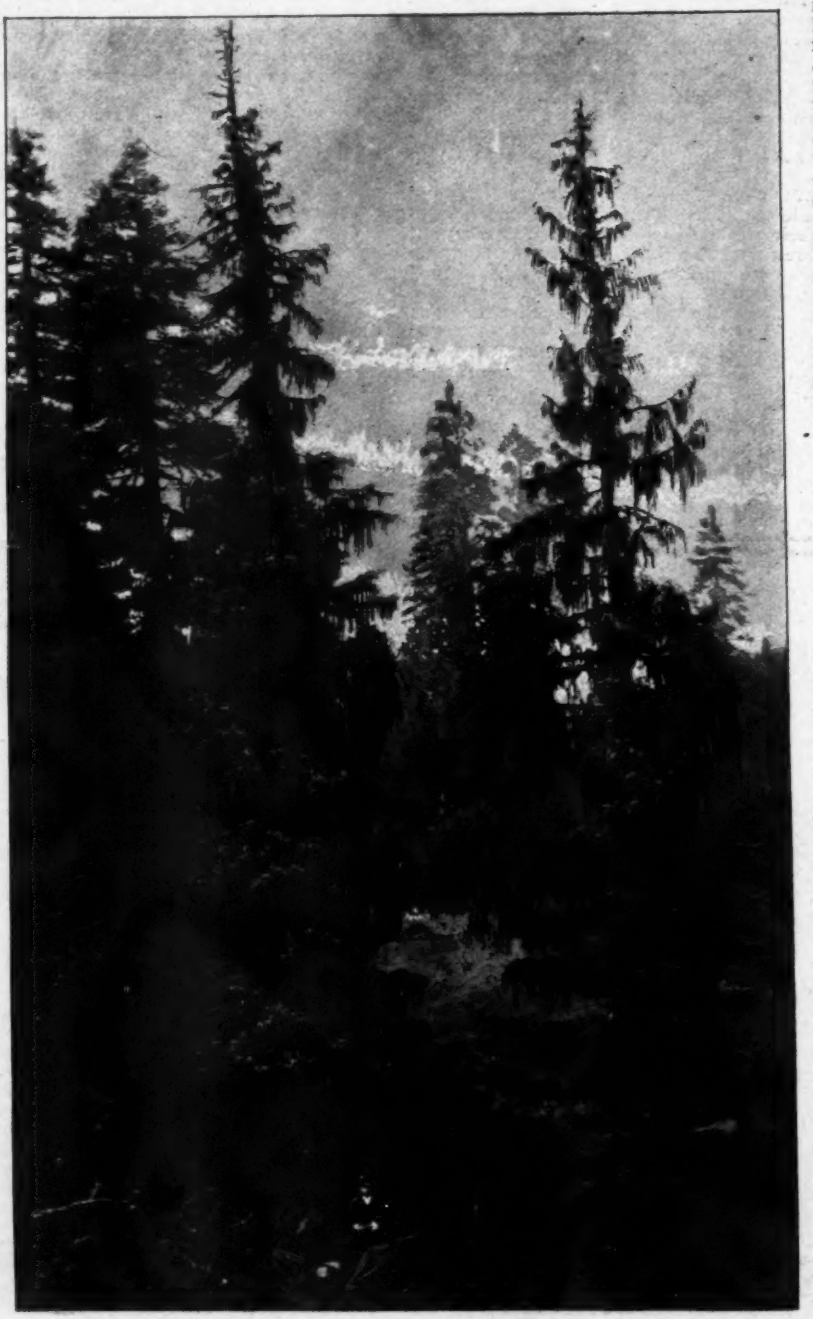

Fig. 15.—Picea Breweriana.—See page 63.

To the now obsolete firm of Messrs. Loddiges, of Hackney, is due the introduction of *L. anceps* to cultivation in 1835, and Messrs. Low & Co., of Clapton, were not far behind, as they soon afterward imported it. It is a native of Mexico, and I think I cannot give a better idea of its surroundings in that country than by quoting from Mr. Kienast-Zolly, of Zürich, who, writing in the *Gardeners' Chronicle* in March, 1887, says: "During my long residence in Mexico I have many a time found plants of *L. anceps* growing in my Coffee plantation in the neighborhood of Cordova, in the state of Vera Cruz. I always met with them on the borders of the virgin forests, growing on the trunks of trees and on the very slender branches exposed to a powerful sun and to strong winds, often also clinging to the rocks covered with the remains of leaves and moss under the same conditions. During the rainy season—from May to October—these plants are daily drenched by the torrents of rain, of which they experience the full force, often for five consecutive hours, and are thoroughly wet throughout the night. About six o'clock in the morning a sharp and fresh wind, coming from the highest peaks of the Cordilleras—many of which are capped with perpetual snow—begins to dry the plants, a work which the burning sun completes, pitilessly shining on them for several hours until the daily storm drenches them afresh. Under these conditions *L. anceps* grows with extraordinary vigor, and flowers about the end of October or November, just at the time when the new bulbs arrive at their perfect development. Some weeks after the rainy season is over the newest bulbs become firm and ripe, so as to prepare for a thorough and necessary rest, which lasts until March, when the new growths appear."

Mr. Kienast-Zolly further remarks that *L. anceps* is widely distributed along the eastern side of the Cordilleras, from Jalapa southward to Orizaba, where many varieties are to be met with, and also in some places along the Pacific coast.

From the above remarks on this species in its natural con-

dition, it will not be hard to judge the kind of treatment it requires under culture. The plants are generally grown in baskets, as more convenient for hanging up, and the compost used is rough peat and chopped moss mixed with crocks or charcoal. Of course the drainage must be good. From March until August or September, when the plants are growing vigorously, they may be well watered every day almost, and receive as much light and air as possible, but not allowing the sun to scorch them by means of the glass roof, as would inevitably happen on hot days if slight shading were not used. After this period the flower-spikes push up, but do not produce flowers for a month or two longer. The supply of water must then be diminished little by little until the flowering season is at an end, which is generally about the middle or end of January. The plants should then enjoy a thorough rest until growth again begins. The temperature in winter may sink as low as 50° Fahr. during the night, but may reach as much as 60° or 70° during the day. In the summer these figures will naturally be some degrees higher—especially in the day-time—in both cases.

John Weathers.
St. Albans, England.

Chives.

THE bulbs of this vegetable increase by offshoots, or bulblets, which multiply rapidly during the growing period. It is not generally cultivated, a rather surprising fact when its ease of culture, hardiness and vigorous growth are considered. It will grow even in partial shade, and with the exception of the Onion-maggot, which will sometimes work among the roots, it has no dangerous insect enemies. It is perfectly hardy in all soils not filled with water. It grows at a low temperature, and hence is used for early salads in spring, and can be cut almost as soon as the frost is out of the ground. It responds promptly to heat and careful culture, giving a constant and rapid supply of its tender leaves, which are most acceptable wherever the flavor of Onion is desired. My first plants, a clump of perhaps fifty of the small bulbs, were divided into ten parts and set in the ground in spring. Here they grew rapidly, increased in size, till fall, when I had ten bunches as large as the one divided in spring. These remained out all winter without protection, and during the second season made clumps of roots six inches across. In the fall three of the roots were lifted, with the ball of earth attached, and carried into the cold cellar, and here the tops disappeared and the roots appeared to die. In the month of February these roots were brought into the warmth of the greenhouse, and placed in the soil at a temperature of about fifty degrees at night and seventy by day. They started at once, and in six weeks from the time of setting in the ground the tops were large enough for use, and were clipped close to the ground. The roots sent up a new growth, which was ready for cutting again in another six weeks. As soon as the supply on the open ground appeared the cutting was stopped from the roots in the house, and when settled weather came these roots were again planted out-of-doors, where they again grew with vigor. At the close of the season they were well established, and in the fall the roots for forcing were taken from those undisturbed the previous year.

The plant under consideration is the smallest member of the Onion family in cultivation. It makes a nice appearance, continuing green all the season, and in midsummer has a seed-stalk crowned with a purplish flower cluster, not unlike a Clover-head. The plants grow very evenly to a height of six or eight inches. It rarely develops seed in this latitude, and consequently is best propagated from the roots, which bear transplanting well and grow in all soils. The roots grow fairly well in pots, and if plunged in the ground in summer and rested awhile in fall, can be grown and flowered in the window.

W. H. Bull.
West Springfield, Mass.

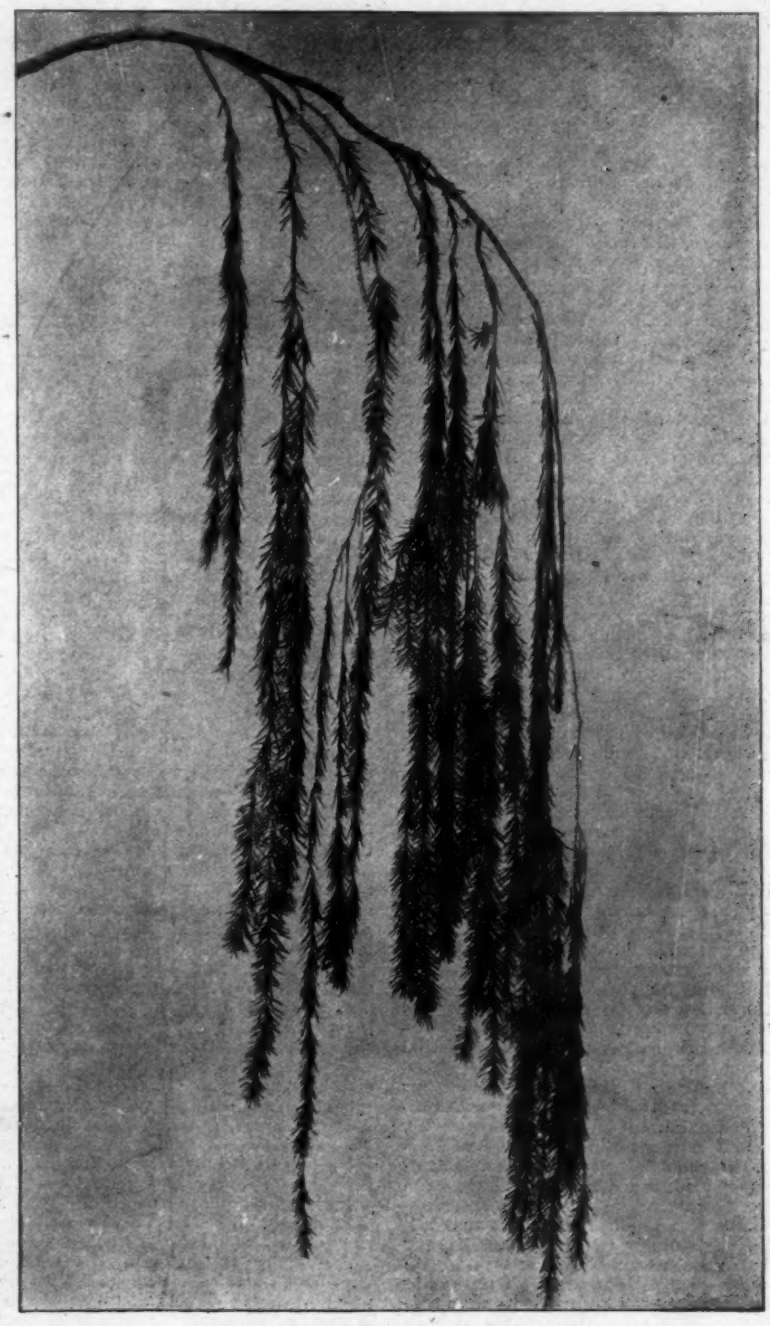

Fig. 16.—A Branch of Picea Breweriana.—See page 63.

Lælia albida.—This charming little Orchid will be seen in bloom in nearly every collection about this time, and is justly valued for its spikes of delicately-tinted and fragrant flowers. It is well adapted for cut flower or bouquet work, and lasts a considerable time in water. *L. albida* is found very abundantly in the southern part of Mexico, generally at considerable elevations. It was introduced nearly sixty years since, and has always been a popular Orchid. Its cultural requirements have not as yet been thoroughly understood, for no matter how good and strong the imported plants

may be, they surely dwindle away in a few years, and fresh supplies have to be brought from their native habitat. The best success has been attained by giving them abundance of air and sunlight, plenty of water during growth, and rest in a cool, dry house. *F. Goldring.*

Kenwood, N. Y.

Notes from the Harvard Botanic Garden.

CYCAS REVOLUTA.—A large specimen of this Cycad has been in fruit in the Palm-house here for several months, and it has proved of much interest to visitors. Last spring a series of little leaves—downy and yellowish, from six to twelve inches in length, and altogether different from the regular leaves—appeared upon the crown of the plant; and some weeks later the fruits appeared upon the sides of these leaves, being arranged singly along two-thirds of their length, and leaving a somewhat fasciated cluster of leaflets at the top. When young, the fruits are hard and present the same downy appearance as the leaves upon which they are borne; but with age the exterior covering becomes soft, and the fruits assume a brilliant vermilion hue that can be easily seen through the loose downy covering. In size and form they resemble a large flattened prune, with two lobes at the top. Some time ago a visitor spoke of them as tiny peaches a little deformed, and there is some accuracy in the comparison. Though these fruit-clad leaves add very materially to the appearance of this beautiful plant, their production has a decidedly injurious effect upon it, inasmuch as the development of the pleasing dark green leaves is thereby considerably retarded. In the ordinary course of events specimens that bear a crop of fruit will not assume their normal appearance for two or three years. As this plant is commonly known as the Sago Palm it is believed by many that the sago of commerce is obtained from it. This is an erroneous idea. It is true that a substance with the peculiarities of sago may be obtained from the pith in the trunk; but the genuine sago is a product of *Metroxylon Sagu* (*Sagus lævis* and *S. Rumphii*), an entirely distinct Palm, from the East Indies.

GREVILLEA THELEMANNIANA.—The genus Grevillea includes many handsome plants, but this species is by far the most interesting. It is a dwarf shrub, of bushy habit and most graceful outline, from Australia. The branches are slender, though self-supporting, and thickly clad with fine, feathery foliage of a glaucous hue. The flowers are borne in dense globular clusters at the extremities of the young shoots, and, as the slender branches arch outward gracefully with their weight, the clusters, at a distance, look like huge tropical insects hanging from threads. The individual flowers are small and of a bright red color, and the long, slender pistils, of the same color, with conspicuous green stigmas, add considerably to the beauty of the flowers. The plant is almost constantly in bloom, but the flowers are produced most freely during winter and spring. With proper attention to soil and other necessities it will thrive satisfactorily in any greenhouse the temperature of which is not allowed to fall below forty-five degrees. It may be readily increased from cuttings of the young wood placed in a propagating frame any time during spring. Established plants may be cut back slightly during the latter part of spring, and if a shift is required it may be given when they commence growth again. Two parts fibrous peat to one of turfy loam and one of sand forms a suitable compost.

MANETTIA BICOLOR.—At the present time this is one of our most attractive stove climbers. It is a plant seldom seen outside botanical gardens, and that cannot be due to its novelty, for I saw it well grown on a globular trellis, in a private collection, a dozen years ago. It can hardly be said that lack of merit is the cause of neglect, for it is a very showy thing when liberally treated. Nor are its cultural requirements so exacting that a novice in the management of stove plants may not attempt to grow it. As the slender twining stems rapidly cover a given space, it is a most useful plant for training on rafters, pillars or trellis work of any description. The tubular flowers are small, but their brilliant red and yellow colors render them very conspicuous. They are borne in the axils of the leaves on the young shoots. Their production is periodical, and when a crop is past the plant should be given a short season of rest, after which it may be pruned slightly and again allowed to grow and flower. If planted in a bed or border, the drainage should be ample, and it would be well to confine the roots to some extent, as members of this genus tend to the production of leaves at the expense of flowers, when the roots are allowed to ramble at will. A mixture of strong loam, fibrous peat, leaf mould and sand will be found satisfactory. Pot bound plants are benefited by an occasional watering with liquid manure.

OXALIS VERSICOLOR.—This old favorite among the many beautiful species of Oxalis appeals for a word in its favor as its flowers open in the morning sunshine. It is a delicate little plant, with its three inches of slender stem, surmounted by little clusters of tender leaves and lovely flowers. The petals are pure white, with the exception of a faint tinge of yellow inside, at the base, and a narrow but showy margin of bright crimson on the outer half of each. This species is usually described as having a corolla white inside and red outside; but any one who takes the trouble to examine carefully a fully expanded flower will soon find this description incorrect. The flowers cannot be seen fully developed, however, unless the sun is shining, and even then the plant must be so placed that the sunlight falls directly upon it; otherwise the flowers will remain closed or in a half opened state. Perhaps the inaccurate descriptions are partly due to this fact. A casual glance at a folded flower might give the impression that the outside of the petals is wholly red. But, whether the flowers are folded, half opened or fully expanded, they are very beautiful. If the roots are planted thickly over the entire surface of the soil in pots, or, better still, in shallow pans, the plants will form a compact mass of flowers and foliage. If planted sparsely they present a straggling and untidy appearance during the following season.

Cambridge, Mass. *M. Barker.*

Preparation for Bedding.

AS the spring approaches, preparation will be in order for out-door decorations in the way of bedding, and many new plans and new plants will doubtless be considered. The list of plants available for this purpose has been largely extended of late years, not merely by the introduction of new ones, but also by the discovery from year to year that various plants, not before used to any extent in this particular field, are perfectly adapted to it. For bedding, and especially for sub-tropical bedding, there appears to be a growing interest, and as a varied effect is usually sought for, a large number of species and varieties may be used. Of course groups of a single plant are often effective. There are many places where, for instance, a large mass of bronze-leaved Cannas or a clump of *Arundo donax* may be just the ornament needed.

Among the old plants not often seen is *Humea elegans*, a truly elegant plant when in good condition, and peculiarly effective in a sub-tropical bed, its graceful feathery-looking inflorescence of brownish red being very attractive, and forming quite a striking contrast with the large light green leaves, which are somewhat similar in character to those of Tobacco. *Humea elegans* is propagated from seeds, which are best sown in the autumn, so that the plants may attain considerable size before planting out, an operation which should always be deferred until settled warm weather, or about June 1st in this latitude. This plant grows well in a light, sandy soil, well enriched, and the young stock should not be allowed to become very much pot-bound at any time, else the loss of the lower leaves usually follows.

Acalypha Wilkesiana (or tricolor) is also a striking plant when used outside in summer, growing as freely as a Coleus and about as easily propagated. *Acalypha marginata*, the leaves of which are quite large and showy, being brown or bronze in the centre and surrounded by a light colored margin, may be used in the same manner, and with equally good effect. Cuttings of these plants should be put in now, and if placed in a warm house they will root in a few days. The Acalyphas are not fastidious as to soil, but they do well in good loam, to which may be added a small proportion of peat if convenient, to make the soil a little more open. Last summer I observed a large circular bed planted with *Begonia semperflorens* surrounded with a ring or edging of *Acalypha Wilkesiana*. The Begonias were covered with flowers and the contrast was decidedly pleasing.

A striking plant when in flower is *Lasiandra macrantha*, its large bright purple flowers being most showy. It seems a pity that the flowers of this handsome plant should be of so ephemeral a character, seldom lasting for more than a day out-doors when the weather is bright, but still they are produced in such profusion that the plant is seldom out of bloom during the summer. This plant has not been largely used for bedding purposes, though its adaptability was proved a number of years ago. The idea which once prevailed, that the Lasiandra was essentially a stove plant, was dispelled long ago.

If not already sown, seeds of the Abyssinian Banana (*Musa Ensete*) should be sown at once, so that the plants may be strong and vigorous before planting out. The Musas require

liberal treatment, and should not be planted out until the ground gets warm. It is always advisable to plant them in a somewhat sheltered location, for when exposed to the full force of the wind the foliage becomes so torn as to sadly mar its beauty.

Among the toughest of plants, both for bedding in summer and also for conservatory decoration in the winter, are the Strelitzias, the leaves being so strong in texture that they are seldom injured by storms. The best known variety, *Strelitzia Reginæ*, produces its odd-shaped and brilliantly colored flowers quite freely, and invariably attracts much attention, the combination of colors, bright orange and blue, being an infrequent one. *Strelitzia augusta* is a stronger grower than the preceding, and larger in all its parts, the leaves being borne on long petioles and having some resemblance to those of the so-called "Traveler's Joy" (*Ravenala Madagascariensis*). Both of the above-mentioned Strelitzias are natives of the Cape of Good Hope, and may be propagated from seeds, when these are to be had, or by division of the plants.

The improved Cannas of recent introduction have deservedly attracted much notice during the past season, and will doubtless be planted in large quantities for the coming summer. The Cannas are unquestionably at the head of the list of large bedding plants, and when they combine, as in the above-mentioned improved race of varieties, large and highly colored flowers with handsome foliage and comparatively dwarf habit of growth, they become doubly desirable.

Holmesburg. *W. H. Taplin.*

Cannas as Annuals.—While Cannas for many years have been among the most ornamental of garden plants, the recent addition of the French hybrids, with their brilliant flowers, has added much to their value and attractiveness. Many named kinds with large flowers; brilliant reds of various shades, and yellows, some of them spotted with red, are now offered. But Cannas are so readily and soon to be had from seed that unless some special color is desired in quantity it seems scarcely worth while to bother with wintering old roots. Seeds of Crozy's Cannas, to be had of the seedsmen, will produce many of the named kinds exactly and give a good range of colors. Now is the proper time to sow them in order to secure fine plants in May. The seeds should be lightly filed through the hard outer coating, which should be softened by soaking in tepid water for twenty-four hours, after which they may be sown in moist soil, and kept in brisk heat until germination, which soon takes place. I have had good success by sowing seed in a pot which was placed inside a larger one, this being plugged to retain moisture, and the space between pots being filled with sand, and all covered with a glass and placed on the pipes. After germination the plants should be potted into good soil, well supplied with moisture (after the roots commence to run, of course), and they soon make great headway. Stocky plants two feet high may be had in late May. I do not find this strain of Cannas to be dwarf, however, as under fair culture only they will grow to the height of five or six feet.

Elizabeth, N. J. *G.*

Correspondence.

An Example in Tree Planting.

To the Editor of GARDEN AND FOREST:

Sir.—For some years during my connection with the Michigan Horticultural Society, forestry topics were sandwiched in among the other subjects upon the programmes of conventions upon the theory that the continuous success of horticulture in our state was intimately connected with the conservation of our timber areas. The discussions seemed to be fraught with little good, because the papers were either looked upon as simply interesting or stigmatized as "hypothetical nonsense, with no foundation in practical affairs of rural life." And worst of all, in the discussions the severe utilitarians seemed usually to have the best of it. That is, the men who argued from figures that more income could be derived from the cleared land than would furnish all the wood products the area of timber could produce, carried more weight than the tree-lovers, whose argument always touched upon a longer foresight, somewhat ignoring the immediate turning of a penny.

I became a good deal discouraged about awakening an interest in the subject; and although I could see disastrous effects from the clearing away of the timber in southern Michigan, I could not convince others.

Circumstances gave me an opportunity in 1878 to sow several rows in the garden west of my house with the seeds of three varieties of Maple, two of Ash, two of Elm and one of Alder. I also planted seedlings of Norway Spruce, Austrian Pine, Arbor-vitæ and European Larch in parallel rows alongside. I cultivated them, and they grew thriftily. In the meantime, to the westward of me for miles, the timber gradually disappeared, until the wind now has a sweep for a long distance, with nothing to break its force. It was not later than 1883 that neighbors began to inquire if I would sell some of those ornamental trees. I had none for sale, but gradually began thinning out the plantation and giving plants to my neighbors. The school-ground was planted with some of the surplus; numbers found their way to the cemetery; rows of them were planted along the highway. It seemed marvelous how many could be spared and still how many remained. The grove has thickened and made a complete barrier. Many of the trees are twenty feet in height; and weekly, almost daily, in the winter season, I hear the remark, "What a complete protection the grove makes for your buildings from the force of the prevailing winds."

Shrubs and tender plants are grown under the lee of this grove that will not withstand the severity of the open blast. My coal bill is lessened, my general happiness and that of my friends admirably subserved. I have been enabled to contribute to the especial wants of my neighbors in a delightful way. Others have appreciated the argument and have followed my example. The logic of deeds has been more convincing than the argument of words.

Grand Rapids, Mich. *Charles W. Garfield.*

Worms in Violet Roots.

To the Editor of GARDEN AND FOREST:

Sir.—The report of Professor Comstock's paper before the Western New York Horticultural Society upon the Clematis Disease has particularly interested me, for my investigations have led me to ascribe a part, at least, of the Violet disease to the same or a similar cause. Several fungi, as for example *Ascochyta Violæ*, Sacc, *Cercospora Violæ*, Sacc, and a Peronospora, have been found; but these did not account for all the trouble. For example, in some beds dwarfed and sickly plants would be found that did not show the presence of any fungus. Such plants, however, when pulled from the soil showed peculiar enlargements upon the roots, and these galls, when sliced and placed under the microscope, exhibited all stages of what seems to be a species of *Heteroderma*. Since this location of the trouble of such sickly plants in the roots where the Nematodes breed and rob the Violets of their vital juices, I have visited a number of Violet growers, all of whom had the sick plants, and in every case the worms have been found in the roots. Other growers have been reached through the mail with a request to examine the roots of any sick plants, and they report the finding of the root-galls.

It therefore seems clear that to the Clematis, as determined by Professor Comstock, and the Peach, Orange, and a long list of other cultivated plants, as worked out or reported upon by Dr. Neal,* of the Florida Experiment Station, and Professor Geo. F. Atkinson,† of the Alabama Experiment Station, the cultivated Violet must be added as a plant liable to attacks from these eel-worms. The two large and fully illustrated bulletins, just at hand from the south, and the paper by Professor Comstock, make it evident that there is a large field for the economic helminthologist.

N. J. Experiment Station, January 31st, 1890. *Byron D. Halsted.*

A Rare Buttonwood.

To the Editor of GARDEN AND FOREST:

Sir.—Usually we expect to find our native Buttonwood-tree in ground which is at least damp. Much more frequently it is seen hanging lovingly over some stream of fresh water, or shading a country spring-house while the roots dip into the spring itself. Very rarely, however, do we see it on the tip-top of a high (and from all external signs), dry hill. If we should observe one in such a position we should expect to find it small for its age, and giving plain indications that the site was not the one best suited to its needs.

Recently, however, in Chester County, Pennsylvania, I measured one, which was growing in high, dry ground, which was, at two feet from the ground (just below its first limbs), twenty-one feet and eight inches around. One limb was ten feet and four inches around, and another eleven feet and five inches. The spread of the branches was something over ninety feet. Its height was about eighty feet.

*"The Root-knot Disease of the Peach, Orange, and Other Plants." Bulletin No. 20, Division of Entomology, U. S. Department of Agriculture, 1889.

†"Nematode Root-Galls," December, 1889.

The tree is quite vigorous, and shows no signs of declining strength. There is near by another, probably larger, specimen on lower but quite dry soil.

University of Pennsylvania. *J. T. Rothrock.*

Abraham's Oak.

To the Editor of Garden and Forest:

Sir.—Allow me to add the following to your account of Abraham's Oak (vol. ii., page 602), which I find in Hones' "Early Day Book," vol. i., p. 507, published in London in 1866:

"We are told that this Oak was standing in the fourth century. Isidore affirms that when he was a child in the reign of the Emperor Constantine he was shown a Turpentine-tree, very old, which declared its age by its bulk, as the tree under which Abraham dwelt; that the heathen had a surprising veneration for it, and distinguished it by an honorable appellation. Some affirm that it existed within the last four centuries.

"At the dispersion of the Jews under Adrian, about the year 34, an incredible number of all ages and sexes were sold at the same price as horses in a very famous fair called 'the fair of the Turpentine-tree,' whereupon the Jews had an abhorrence for that fair. St. Jerome mentions the place where the Jews were sold as 'Abraham's Tent,' where, he says, 'is kept an annual fair very much frequented.' This place, on Mamre's fertile plain, is alleged to have been the spot where Abraham entertained the angels."

The allusion to the Turpentine-tree indicates, perhaps, some other tree rather than the Oak now known as Abraham's Oak, possibly some leguminous tree, or perhaps the Lotus, *l'arbre des Lolophages* (*Zizyphus Spina-Christi*).

Boston, Mass. *Francis Skinner.*

The Western New York Horticultural Society.

The Annual Meeting at Rochester.—II.

To our report of the meeting in last week's issue we add abstracts of a few more of the papers read. Besides these papers there were reports from each county, which contained practical hints of great value to fruit-growers. The exhibition of fruit was smaller than that of last year, but it contained a remarkably fine collection of Pears from Ellwanger & Barry, among them a group of Cox's Seedlings, which have rarely been seen. These were all fine looking Pears and they promise to keep later than any of the varieties now cultivated.

Late Experience with Insects Injurious to Orchard and Garden.

Dr. J. A. Lintner, State Entomologist, in treating this subject, said that a great impetus had been given to the study of economic entomology by the experimental stations, thirty of which have enrolled an entomologist among their faculty, some of them the most distinguished in the country, so that there is every prospect that within a few years the most injurious insects will be brought under control. The stations give opportunity to test the preventions and remedies under varied conditions of soil, climate, season, etc. This increase in the number of working entomologists and the enlarged fields for their research has led to the organization, during the year, of the Association of Economic Entomologists, whose aim is to co-operate, so that duplication may be avoided.

The force pump now plays a most prominent part in operations against insects in orchard and garden. The ease with which the codling moth can be controlled, and apples grown of full size, perfect form, rich in color and of highest flavor, and resistance to early decay, is sufficient proof of its value; and by its aid we hope to defy the Plum curculio, and check the ravages of almost every insect feeding upon the foliage of trees, and a large number of those which attack the products of our gardens. No orchardist or gardener can afford to do without a force pump. It is costly neglect. The cheap and fatal spray, compared with old methods of fighting, is as a gatling gun compared with a flint-lock musket.

Experiments have shown that stronger mixtures of arsenical poison have been used than necessary, and that in no case need they exceed the strength of one pound of the arsenite to 200 gallons of water. The foliage of fruit-trees has at times been injured by insecticides, so that the minimum amount of arsenite should be used that will suffice for its purpose. Experiments for determining this will be a portion of the work for the ensuing year. It would seem that the arsenites are more liable to injure foliage which is advanced than when it first appears. If this fact is established, the mixture for later spraying should be weaker. Different fruit-trees are susceptible to the poison in different degrees. Apple and Cherry are least affected, Plum-trees are more susceptible, and Peach is most easily injured. For Plums one pound of the arsenite to 250 or 300 gallons of water should be used, and for Peaches the latter dilution is recommended.

Water as an insecticide has been used by Mr. L. C. Howard, of the Entomological Division at Washington, effectively against the Rose-slug. Rose-bushes covered with slugs were treated with tobacco soap, which killed them, but stained the petals; pyrethrum mixed with flour also killed, but it was expensive; sifted coal ashes were effective, but destroyed the looks of the bushes; then the garden-hose was turned on and a strong stream of water directed to the foliage each evening, and the bushes remained green and beautiful. The stream of water was also used against plant-lice on Currant-bushes, web-worms on shade-trees, and ants which built little mounds on the lawn and in the cracks of a brick walk; and best of all, it broke up the nests of the English sparrows in the Ivy and over the windows. Dr. Lintner has confidence that a coarse spray of water thrown with force will destroy many pests besides these. It will be efficient against the little white Rose-leaf-hopper; against the several species of the small leaf-hopper which infests the Grape-vine; as well as all plant-lice which can be directly reached. Rain-storms arrest attacks of the Apple-tree aphis and the Hop-vine aphis. If these insects can be knocked by a jet of water from their food plant while their beak is inserted into it they will die if the smallest portion of the tip of the beak is left behind in the plant.

The recent working out of the life-history of the Rose-bug at Washington may, when published, aid in the operations againste it; but Dr. Lintner has long thought that the most successful means of contending with this pest is to be found in the study of its breeding-grounds. It is a local insect, appearing suddenly in immense numbers and in particular localities, and there is therefore reason to believe that it has its particular breeding-grounds. A lady in Virginia states that year after year the Rose-bugs come in myriads from a brush-covered swampy bit of sand that is always wet and was once in a bed of a river now flowing in another channel. They are true to their date of appearance each year, true also to their line of flight, which she has mapped out. They move in a body five hundred feet broad up the old river bed as far as a point indicated on the map. The second day they rise higher in continued flight, spreading somewhat and reaching certain points beyond, and their progress for two or three days thereafter can be almost certainly predicted. If more data of this sort could be gathered we might learn something of the breeding grounds of this insect.

In June, 1888, Mr. Barry's newly set Pear-trees were attacked by an enemy which was found with one end inserted into the fruit. The depredator was the larva of a small tineid moth of the group known as case-bearers, from the small case which they construct for their covering while in the caterpillar stage. The case is never deserted by the larva, but is carried about upon its body, and from it the head is thrust out to feed, and in this instance the head and front segments are buried into the fruit, the case projecting and appearing as if a bit of small twig had been stuck into the pear. Specimens of the fruit show that the caterpillar bores a hole of about the diameter of its body, that of an ordinary pin, to the depth that it can protrude from its case; withdrawing, it removes a space, and again burrows until many holes were drilled into each pear. One pear of half an inch in diameter showed forty-four borings. Of course this means destruction to the fruit, which becomes as it grows gnarled and unfit for use. Detection of this attack explains the cause of much unsightliness and deformity in apples and pears which, from the different character presented at a later stage, had been a perplexing mystery, and no one had been able to refer it to any known insect. A month later some Duchess pears from another part of the state showed a defect which Dr. Lintner at once recognized as caused by this insect. It is probable that this attack will be widespread and the cause of injury can now be traced. If the insect appears in injurious numbers it can be destroyed by spraying with an arsenite soon after the setting of the young fruit.

Dr. Lintner gave some interesting facts relating to the pear-blight beetle, a new enemy of Quince-blossoms, the Peach-bark burrower, the Cherry-tree slug and many other pests

which have made themselves conspicuously disagreeable during the year, and gave also the cheering information that a large plant-insect, identified as a Podisus, had been found preying upon the Currant-worm, a fact which encourages the hope that this annoying pest may be more easily controlled.

TESTING VARIETIES OF FRUITS.

Mr. C. E. Hunn, of the Geneva Experiment Station, gave an interesting account of the work in this direction under his charge, and the conditions under which new varieties were received from originators, protected from rival growers and finally reported upon. The paper concluded with the statement that there were now under comparative trial at the Geneva Experiment Station the following varieties of fruits: 300 varieties of Apples, 120 of Pears, 97 of Plums, 53 of Cherries, 151 of Grapes, 98 of Strawberries, 57 of Raspberries, 24 of Blackberries, 24 of Currants, 16 of Gooseberries. These are reported on as they come into bearing, with as full a description as possible.

Of the Strawberries tested at the station in the season of 1889, the following were found promising: Burt's Seedling, a good substitute for Wilson; Bomba, Crawford, Daisy, Enhance, Farnsworth, Hoffman, Haviland, Ivanhoe, Middlefield, Augur's No. 70 and Warfield.

For market the following are commended: Haviland and Hoffman, early; Daisy and Burt's Seedling, medium; Bubach and Crawford, late.

For the kitchen-garden the following are promising: Bomba and Haviland, early; Ivanhoe, medium; Farnsworth and Middlefield, late.

There were fruited on the station grounds the past season 1,000 seedlings, many of them crosses. In the study of them many interesting facts have been obtained, among which are the following in regard to pollen bearing blossoms: Of forty-six seedlings from Wilson all had perfect blossoms; of seventy-four seedlings from Daniel Boon, forty were perfect and thirty-four were pistillate; of fifty from Crescent, eleven were perfect and thirty-nine were pistillate; of forty from Sharpless, thirty-nine were perfect and one was pistillate; of forty from Old Iron Clad, thirty-seven were perfect and three were pistillate; of sixty-five from Crescent, crossed with Lennig's White, thirty-five were perfect and thirty were pistillate; of thirty-four from Crescent, crossed with Sharpless, nine were perfect and twenty-five were pistillate.

While the chance seedlings afford a lesson in variation, it is the crosses that should be studied. It would naturally seem that a variety as vigorous and well supplied with pollen as the Sharpless would be more potent to carry its pollen bearing quality than one of the habit of Lennig's White; but the contrary is the case in this instance, and the contrast seems too sharp to be merely chance. If this potency continues to hold good through other tests, it will be a great benefit to the experimenter in perfecting any pistillate variety, as in the case of a very late pistillate kind, of rank growth, vigorous habits and free blooming qualities, but blooming after all the pollen bearing varieties have passed out of flower. If we can be sure of a perfect variety of weaker growth, but potent to carry its pollen, it will be one step toward accomplishing our ends.

THE PLANTING OF SCHOOL-GROUNDS.

A paper on this subject by Mr. John J. Thomas began by assuming that if attractive surroundings in a home are better than those which are repulsive, certainly it is better that children should live under the influence of surroundings that are orderly and pleasant than among those that are rude and debasing. There are 5,000,000 children of school age in the country, and it should be a matter of concern to know the character of the place in which they spend a large portion of five days at least of every week at a period of life when they are most susceptible to all impressions. It certainly is better that the school-house and grounds should be attractive rather than unrefined and comfortless. And yet there are many school-houses whose appearance and arrangements are calculated to give lessons in anything else than in order and tidiness and beauty. Mr. Thomas spoke of a region through which he once drove where he passed two farms with brick barns which cost from $6,000 to $8,000 each, and within a mile of these, on a side road, was the school-house which the children of the owners of these barns attended. The building had originally cost, say $400, including the rail-fence which surrounded it. It had never been painted. There were no shade-trees about it. It stood bare and comfortless, and the only comely thing on the premises was a neatly dressed school-mistress, seen through the window. Now, suppose these men, who were willing to spend thousands of dollars on buildings in which their animals were housed, had been willing to pay a little attention to the ornamentation of the grounds where their children were receiving instruction, is it not to be presumed that the influence of a pleasant shrub-bordered lawn and some well kept shade-trees would have helped in the formation of proper habits of thought and a proper recognition of what is lovely in nature and in art? The decoration of school-grounds can be made at a trifling expense. The ground in the beginning should be thoroughly broken and harrowed and then seeded to grass. It should be planted with some native shrubs and trees, and the boys and girls should be made to feel an interest in maintaining it. The play-ground proper may be in the rear of the building, and if the students are furnished with a cheap mower they will take pride in keeping the lawn in front well clipped and tidy. Besides this, if our native trees—Hickories, Oaks, Birches and Pines—are planted in groups, many interesting lessons in botany can be drawn from them by a skillful instructor. Flower-beds should be used with caution, but when children are properly interested they can be introduced to advantage, and it is certain that the influence of such a pleasant ground will do something toward improving and elevating taste and character.

In the discussion which followed it was objected that boys take the greatest delight in destroying everything that is planted in school-grounds. On the other hand, several members related their experience to prove that the interest of the children themselves can be enlisted, and then the danger of destruction is small. One speaker stated that he had planted the grounds of the school in his district three successive times, and the trees were always destroyed; but on the fourth occasion he invited the pupils to his nursery to dig up the trees for themselves. He accompanied them and directed the planting, which was also done by them with some little ceremony, including music, speaking and a pleasant collation. The result was that the whole school has entered heartily into the garden project, and has added flowers and shrubs, which they are watching with the utmost care.

The May frost, which did so much damage to fruit crops last year, did less injury to pears than to any other kind of fruit.

There never has been a glut in the market of first-class fruit. When carefully graded, the first quality always finds sale. It is the mixture of inferior fruit and fruit improperly prepared for market which brings down prices.

The area of land devoted to the cultivation of the Grape is rapidly increasing in Chautauqua County, and the so-called "Vineyard District," which extends for forty miles along the south-east shore of Lake Erie, will soon be entirely given up to this industry. Last year 360 acres were devoted to the propagation of the vine, and more than 10,000,000 cuttings were rooted.

Professor Caldwell, in speaking of the effect of fertilizers, cited an instance where wines of a particularly rich bouquet where made from grapes in a district whose soil was peculiarly rich in phosphate. A long treatment of phosphatic fertilizers was given by an experimenter to certain other lands where this element was less abundant, and, after thirty years, the peculiar bouquet appeared also in the wine produced from the latter district.

A letter was read from the venerable Lewis F. Allen, who is more than ninety years old and who settled in Buffalo when it was a village. Sixty years ago Plum-trees were found everywhere and were abundantly productive. Neither the curculio nor the Black Knot had then been heard of. Along the Canada shores of the Niagara River were Peach-trees ten inches in diameter and forty years old. The new-comers, encouraged by these indications, planted many Peach orchards on Grand Island and the neighboring shores, which were very profitable for a time. Thirty years later, however, the yellows came, and hardly a single tree is now living.

In the course of an address on the Fruit Evaporating industry, Mr. Michael Doyle gave some interesting facts concerning "chopped apples," a dried product from inferior fruit and material left after the preparation of the best quality of evaporated fruit. The export trade in this product had increased from small orders in 1880 to 11,000,000 pounds in 1888, and 20,000,000 pounds could have been sold in 1889. Cider was said to be a staple drink in northern France, and 276,000,000 gallons were consumed there annually. The chopped apples taken from here, and largely used for conversion into cider, are thoroughly dried, and are preferred to the home growth, being better preserved and of finer flavor. There now appears room for all we are able to export, although the Apple crop in France was valued last year at $19,000,000—which seems like an enormous product for a single fruit.

In the report from Ontario County the following varieties—some of them new and some old ones which had not been generally planted in that region—were named as very desirable or promising: Of Apples, Longfield, Milding, Sutton's Beauty and Hubbardson's Nonesuch. Of Pears, Vermont Beauty is one of the very finest. Of Plums, French Damson, Field, Stanton, Prince of Wales, Middlebury, Peters' Yellow Gage—one of the very best of its color, The Czar—the best early, Diamond—a first-rate purple. Of sour Cherries, Montmorenci and English Morello. Of Early Peaches, Horton's Rivers, a seedling of Early Rivers, a most valuable introduction, and Hurd's Surprise. Of Apricots, a variety named Harris ripened in July. Of new Grapes, Geneva, a white seedling, seems worthy of trial. Of Currants, Fay, Moore's Ruby—the best flavored Cherry Currant yet produced. Of Blackberries, Early Barnard from Wisconsin the hardiest and best flavored.

Recent Plant Portraits.

Botanical Magazine, January:

HELIAMPHORA NUTANS, *t.* 7093; the remarkable South American representative of the North American Pitcher-plants, discovered half a century ago by the brothers Schomburgk in marshy savannahs near the base of Rossima, in British Guiana. It differs from the Sarracenias by its four to six parted perianth, three to five-flowered scape, uni-bracteal flowers, minute stigma, and by the small rudimentary lid of the pitchers. "Viewing their relations," Sir Joseph Hooker, the editor, remarks, "between these three genera to one another, the question naturally arises whether to regard Heliamphora as a degraded, or an ancestral member of the order. I incline to the latter view, though it points to the surmise that the order originated in a region now separated by upward of 2,000 miles from that inhabited by one of its other members in so far as their distribution is known." Heliamphora was rediscovered by the Orchid-collector, Burke, who brought plants to the Veitch Nursery in 1881. The illustration is from a plant which flowered at Chelsea in June of last year.

PLEUROTHALLIS ORNATA, *t.* 7094; a minute Mexican Orchid of botanical interest only.

PROTEA NANA, *t.* 7095.

ROSA BERBERIFOLIA, *t.* 7096; the simple-leaved Rose of Persia and western Turkestan, a charming species with small yellow flowers, and morphologically of the greatest interest on account of its peculiar leaves, whose stipules Dr. Masters has recently shown are suppressed, although potentially present; and therefore possibly to be developed in vigorous cultivated specimens. *Rosa berberifolia*, long considered difficult or impossible to cultivate, is now well established under glass at Kew.

IRIS BOISSIERI, *t.* 7097; a new bulbous species known only on a single mountain in Portugal. It belongs to the true Xipheons (the English and Spanish Irises of gardens), and its nearest realtive is the Spanish *I. filifolia*. It differs, however, from its congeners in having a rudimentary band down the keel of the lower part of the outer segments, but for garden purposes it is hardly distinct enough in habit or in the form or coloring of the flowers to attract much attention.

SOBRALIA XANTHOLEUCA, *Revue Horticole*, January 1st.

Notes.

In Germany, young Spruces sold for Christmas-trees are often dusted over with fine shavings and a "brilliant" powder to imitate snow.

Small Ferns still occupy a prominent place in dinner-table arrangements, though the list of varieties used in quantity is quite short, *Adiantum cuneatum* as usual taking the lead.

An English correspondent notes with some satisfaction that the list of new Orchids for the year just past shows that the custom of giving hybrids Latin specific names is on the wane.

The Executive Comittee of the Association of American Cemetery Superintendents have issued a circular calling upon the members to suggest at once desirable subjects for discussion at the meeting which is to be held in Boston next summer at the same time with the convention of the Society of American Florists.

The Pennsylvania Horticultural Society celebrated its sixty-first anniversary, on the 21st of January, by a large meeting of its members, together with many delegates from sister societies. Mr. George W. Childs, the newly elected President, took the chair for the first time in the hall that had been elaborately decorated for the occasion. There was also an exhibition of remarkably rare and choice flowers.

The *Revue Horticole* calls attention to the fact that the name of the introducer of the Chrysanthemum into Europe is correctly written Pierre Blancard, and not Blanchard or Blanchart, as the name is sometimes written. Blancard was a sea-captain who made several voyages to Japan, and it was on his return from one of these voyages that he brought back to Europe the parents of many of the present race of cultivated Chrysanthemums.

The use of potted evergreens, such as Retinosporas, Arbor-vitæs and plants of similar character for house decoration, is on the increase, and some of our florists report ready sale for such plants in six and eight-inch pots. Many of these plants are lifted from the open ground in the fall and after being potted are placed in a cold house or frame until needed. They are useful decorations on account of their lasting qualities when exposed in draughty halls and similar locations, though they are too often arranged so as to give a rather formal effect.

M. André, in a recent issue of the *Revue Horticole*, mentions the fact that the finest specimen of the weeping *Sequoia gigantea*, one of the most interesting and remarkable of all conifers of abnormal growth, exists in the garden of M. Allard, at the Maulevrier, near Angers. It is about twenty-two feet high. The weeping Sequoia forms a slender, tapering column, the long pendent branches almost clinging to the main stem. This variety originated in France a few years ago, and among introductions of comparatively recent years no conifer showed at the Exposition in Paris last year created more admiration. M. Allard's collection of conifers, of Hollies and of Oaks, although not long established is one of the most interesting in Europe. It contains five specimens of the form of *Abies concolor*, peculiar to the mountains of Colorado, which cannot be equaled, perhaps, in Europe, in size, and particularly in the deep blue color of their foliage.

The meeting of the New York State Forestry Association, at Columbia College, on Saturday, February 1st, was called to order by Professor E. B. Southwick, the Secretary. Rev. Dr. Charles H. Hall, of Brooklyn, presided as temporary Chairman, until the arrival of General Egbert L. Viele, one of the Vice-Presidents. Hon. Warren Higley explained the object of the meeting. Letters from Hon. Seth Low, Edward M. Shepard and B. E. Fernow were read, and brief addresses were made by Judge Higley, Dr. Hall, Professor Daniel S. Martin, Dr. N. Jarchow, William Potts and J. B. Harrison. Mr. Morris K. Jesup, General Viele and Judge Higley were chosen as a committee to memorialize the Legislature in favor of efficient legislation for the preservation of the Adirondack Forests. General Viele, Professors Martin and Southwick, Mr. Potts and Mr. Harrison were appointed a committee to report to the next meeting amendments to the constitutions and nominations for permanent officers. The meeting adjourned to meet at three P. M. on Monday, February 10th, at Columbia College. The purpose is to complete the reorganization of the Association, and at once to enter upon active work for the promotion of suitable forestry legislation and the development of public interest in rational and practical methods of forest management.

The distinguished French botanist, Ernest Cosson, died in Paris on the last day of last year in his sixty-ninth year. Dr. Cosson published, in 1845, in connection with Germain de Saint Pierre, a classical and much esteemed Flora of the suburbs of Paris, of which three editions have appeared. M. Cosson was appointed, in 1851, Botanist to the Commission for the Exploration of the French Possessions in Africa; and the African flora has almost exclusively occupied his attention from that time until the day of his death. The seven years between 1852 and 1859 were largely devoted by him to examining in the field the vegetation of northern Africa, which he has since described in numerous important papers and memoirs. His great work, an illustrated Flora of Algeria, too long delayed by frequent arduous journeys in pursuit of additional information, remains, unfortunately, unfinished. M. Cosson was a man of independent means, which he devoted, like Bentham in England and the De Candolles and Boissier in Switzerland, to advancing the science of botany. His herbarium, unsurpassed in Algerian plants, was constantly enriched by aquisitions purchased from collectors in all parts of the world; while his botanical library had become one of the most valuable in the possession of an individual. This library and his herbarium M. Cosson placed always at the disposition of botanists, French and foreign, and many Americans remember with gratitude his kindness and the hospitality of his house in the Rue Boëtie.